1999 P 2218 P

11

Abstract

Cooling device for an electric machine

A cooling device for an electric machine with thermal zones
having interactions with one another is proposed, each of the
thermal zones containing a heat source and a temperature sensor,
and at least one cooling means, a controlling element connected
to the temperature sensor being allocated to each thermal zone
for activation of the at least one cooling means. The cooling
device is characterized by the fact that outputs of a plurality
of controlling elements can be connected to the at least one
cooling means.

In an inventive cooling device, a plurality of controlling
elements can act on one or more cooling means, whereby cooling
means are supported or completely replaced by other existing
cooling means.

Fig. 4

1999 P 2218 WO N
PCT/DE00/02146

9

New claims

1.   A cooling device for an electric machine with
   thermal zones that have interactions with one another, each
   of the thermal zones containing a heat source and a
   temperature sensor, and
-   at least two cooling means,
-   a controlling element connected to the temperature sensor
   being allocated to each thermal zone for activation of the
   at least two cooling means and
-   outputs of a plurality of controlling elements being
   connectable to the at least two cooling means,
characterized in that an allocation matrix by which the
controlling elements can be connected to the at least two cooling
means is connected between a plurality of controlling elements
and the at least two cooling means.

2.   A cooling device according to claim 1,
characterized in that a maximum-value generator for
recognition of critical conditions is connected between a
plurality of controlling elements and the at least one cooling
means.

3.   A cooling device according to claim 1 or 2,
characterized in that the electric machine is a computer
system and the cooling means are fans.

4.   A cooling device according to one of claims 1 to 3,
characterized in that the controlling elements are
implemented with an ASIC and/or microcontroller chip or are
implemented as part thereof.

AMENDED SHEET